National Transportation Safety Board
Washington, DC 20594

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Brief of Accident

Adopted 11/29/2007

DCA06MA009
File No. 22717 | 12/08/2005 | Chicago, IL | Aircraft Reg No. N471WN | Time (Local): 19:15 CST

Make/Model:	Boeing / 737-700
Engine Make/Model:	Cfm International / 56-7B24
Aircraft Damage:	Substantial
Number of Engines:	2
Operating Certificate(s):	Flag Carrier/Domestic
Name of Carrier:	SOUTHWEST AIRLINES CO
Type of Flight Operation:	Scheduled; Domestic; Passenger Only
Reg. Flight Conducted Under:	Part 121: Air Carrier

	Fatal	Serious	Minor/None
Crew	0	0	5
Pass	0	0	98
Other	1	1	3

Last Depart. Point:	Baltimore, MD
Destination:	Same as Accident/Incident Location
Airport Proximity:	On Airport/Airstrip
Airport Name:	Midway Airport
Runway Identification:	31C
Runway Length/Width (Ft):	6522 / 150
Runway Surface:	Concrete
Runway Surface Condition:	Snow

Condition of Light:	Night
Weather Info Src:	Weather Observation Facility
Basic Weather:	Instrument Conditions
Lowest Ceiling:	Obscured
Visibility:	
Wind Dir/Speed:	110 / 007 Kts
Temperature (°C):	-4
Precip/Obscuration:	Moderate - Showers - Snow

Pilot-in-Command Age: 59

Certificate(s)/Rating(s)
Airline Transport; Multi-engine Land

Instrument Ratings
Airplane

Flight Time (Hours)

Total All Aircraft:	8500
Last 90 Days:	243
Total Make/Model:	6000
Total Instrument Time:	UnK/Nr

*** Note: NTSB investigators traveled in support of this investigation and used data obtained from various sources to prepare this aircraft accident report. ***

The Safety Board's full report is available at http://www.ntsb.gov/publictn/publictn.htm. The Aircraft Accident Brief number is NTSB/AAR-07/06.

On December 8, 2005, about 1914 central standard time, Southwest Airlines (SWA) flight 1248, a Boeing 737-7H4, N471WN, ran off the departure end of runway 31 center (31C) after landing at Chicago Midway Airport (MDW), Chicago, Illinois. The airplane rolled through a blast fence, and airport perimeter fence, and onto an adjacent roadway, where it struck an automobile before coming to a stop. A child in the automobile was killed, one automobile occupant received serious injuries, and three other automobile occupants received minor injuries. Eighteen of the 103 airplane occupants (88 passengers, 3 flight attendants, and 2 pilots) received minor injuries, and the airplane was substantially damaged. The airplane was being operated under the provisions of 14 Code of Federal Regulations (CFR) Part 121 and had departed from Baltimore/Washington International Thurgood Marshall Airport (BWI), Baltimore, Maryland, about 1758 eastern standard time. Instrument meteorological conditions prevailed at the time of the accident flight, which operated on an instrument flight rules flight plan.

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Occurrence #1: OVERRUN
Phase of Operation: LANDING - ROLL

Findings
1. (C) THRUST REVERSER - INADEQUATE
2. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - FLIGHTCREW
3. (C) LACK OF FAMILIARITY WITH AIRCRAFT - FLIGHTCREW
4. (F) PROCEDURE INADEQUATE
5. (F) CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED - COMPANY/OPERATOR MANAGEMENT

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings
6. OBJECT - FENCE
7. OBJECT - VEHICLE

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The pilots' failure to use available reverse thrust in a timely manner to safely slow or stop the airplane after landing, which resulted in a runway overrun. This failure occurred because the pilots' first experience and lack of familiarity with the airplane's autobrake system distracted them from thrust reverser usage during the challenging landing.

Contributing to the accident were Southwest Airline's 1) failure to provide its pilots with clear and consistent guidance and training regarding company policies and procedures related to arrival landing distance calculations; 2) programming and design of its onboard performance computer, which did not present inherent assumptions in the program critical to pilot decision making; 3) plan to implement new autobrake procedures without a familiarization period; and 4) failure to include a margin of safety in the arrival assessment to account for operational uncertainties. Also contributing to the accident was the pilots' failure to divert to another airport given reports that included poor braking action and a tailwind component greater than 5 knots. Contributing to the severity of the accident was the absence of an engineering materials arresting system, which was needed because of the limited runway safety area beyond the departure end of runway 31C.